

## EXHIBIT G

'163 Patent, Claim 1 Language	Accused Instrumentality
<p>Claim 1. A system for presenting location-based information to a mobile electronic device dependent on its location,</p> <p>comprising:</p> <p>a communication network interface port;</p>	<p>CarPlay-enabled Hyundai vehicles utilize a system for presenting location-based information to a mobile electronic device dependent on its location.</p> <p>In Hyundai vehicles, "Android Auto and Apple CarPlay allow you to access the most commonly used smartphone features, including...navigation" (excerpted from Ref. 34, Page 10). One of the many Hyundai models that supports CarPlay includes the 2020 Hyundai Elantra (see, <i>e.g.</i>, Ref. 28; Ref. 33, Page 33; Ref. 34, Page 10). For purposes of the present claim charts, the 2020 model Hyundai Elantra will be detailed and considered exemplary. The other CarPlay-enabled models from Hyundai operate similarly.</p> <p>x. As an alternative to CarPlay, it is also known that a selection of Hyundai vehicles are equipped with the Android Auto technology (see, <i>e.g.</i>, Ref. 33, Page 31; Ref. 34, Page 10). Android Auto has certain similarities to Apple CarPlay. For purposes of the present claim charts, CarPlay will be presented in detail, with the understanding that a similar analysis could be applied to Android Auto-enabled Hyundai vehicles.</p> <p>For purposes of the present claim charts, the recited "mobile electronic device" is considered to comprise an iPhone or similar Apple device that interfaces with CarPlay.</p> <p>The word "comprising" terminating the preamble of a patent claim means "including, but not necessarily limited to".</p> <p>The system utilized by CarPlay-enabled Hyundai vehicles involves a communication network interface port. For example, claim 3 indicates that the communication network interface port can be configured to interface to the Internet. An iPhone can "interface to the Internet" and therefore includes a communication network interface port. Indeed, to get directions via CarPlay, the user's "iPhone must be connected to the internet" (Ref. 6). Correspondingly, the servers with which a CarPlay-enabled vehicles communicates via an iPhone also include a communication network interface port configured to interface to the Internet.</p> <p>Hyundai reveals that their exemplary vehicles include a communication network interface port variously referred to in Hyundai documentation as a "USB port" (see, <i>e.g.</i>, Ref. 33, Page 30; Ref. 33, Page 34) and as a "USB data port" (see, <i>e.g.</i>, Ref. 34, Page 10). This port can be used to accommodate a cellular handset, such as a compatible Apple iPhone.</p>

a database system configured to automatically store and retrieve location-based information for a traveler, the location-based information comprising location-based travel information and

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Moreover, a community of highway travelers can use CarPlay to report traffic-related incidents and situations (see, *e.g.*, Ref. 6). For example, an associated traveler can indicate that "There's something on the road" (Ref. 6). This same reference also reveals that an associated traveler can "Report an accident" (Ref. 6). In a similar way, construction work and corresponding delays can be reported to a community database using CarPlay technology.

Similarly, documentation detailing Siri contains a scenario wherein the driver of a Hyundai vehicle wishes to communicate an estimated time of arrival with a friend (see, *e.g.*, Ref. 8). In order for this to work properly, the associated technology needs to know the current location and the speed of the associated Hyundai vehicle. The associated technology also accounts for appropriate routing information and any anticipated travel delays along that route, which would be stored in and retrieved from a database system. And, such information comprises the recited location-based travel information.

location-based advertisements; and

The system utilized by CarPlay-enabled Hyundai vehicles involves a database system configured to automatically store and retrieve location-based information for a traveler, the location-based information comprising location-based advertisements.

As referenced above, some of the software programs that are available to the driver of a CarPlay-enabled Hyundai vehicle include road mapping programs.

A CarPlay-enabled Hyundai may display information germane to the respective locations and driving distances for a selection of restaurants. In one example, this includes "Novy", "Kitava", "Senor Sisig", and "Oren's Hummus" (Ref. 17). Such indications could be considered to comprise the recited "location-based advertisements".

	<p>As another example, other mapping programs available in CarPlay-enabled Hyundai vehicles also include an emphasis on commercial businesses. As a typical example, if a Hyundai owner was driving in the vicinity of Orkin Lake, Georgia then their Google Maps imagery would include identifications and locations for "Blissful Nails Salon", "Classic Subaru of Atlanta", "Jim Ellis Ford", "Publix", "RBM of Atlanta, Inc.", and "TD92 Auto Repair" (see, <i>e.g.</i>, Ref. 19). Such indications could be considered to comprise the recited "location-based advertisements".</p>
<p>at least one server having at least one automated processor, configured to:</p> <p>automatically control access to the database system, to store and retrieve the location-based information;</p>	<p>The system utilized by CarPlay-enabled Hyundai vehicles includes at least one server having at least one automated processor. This server is configured to automatically control access to a database system to store and retrieve location-based information.</p> <p>As one example, a community of highway travelers can use CarPlay to report traffic-related incidents and situations (see, <i>e.g.</i>, Ref. 6). For example, an associated traveler can indicate that "There's something on the road" (Ref. 6). This same reference also reveals that an associated traveler can "Report an accident" (Ref. 6). In a similar way, construction work and corresponding delays can be reported to a community database using CarPlay technology. In order for this to be useful, the associated technology (including the server and processor) must control access to the database system to store and retrieve location-based information (<i>e.g.</i>, the location of traffic, delays, and other road conditions).</p>
<p>automatically receive a location from a mobile electronic device;</p>	<p>The system utilized by CarPlay-enabled Hyundai vehicles involves automatically receiving a location from a mobile electronic device.</p> <p>It is known in the art that Apple iPhones—such as those used with CarPlay-enabled models from Hyundai—have GPS capability (see, <i>e.g.</i>, Ref. 10). Such GPS capability is often used to determine the location of the subject mobile electronic device. Certain remote systems then automatically receive a location from the Apple iPhone, including for use in providing location-based information.</p>
<p>automatically receive location-based information from the mobile electronic device;</p>	<p>The system utilized by CarPlay-enabled Hyundai vehicles involves automatically receiving location-based information from the mobile electronic device.</p>

	<p>As one example, a GPS-enabled iPhone or iPad will, from time to time, send GPS location, travel speed, direction, and barometric pressure to Apple to be used for building up Apple's crowd-sourced road traffic, roadway, pedestrian walkway, and atmospheric correction databases (see, <i>e.g.</i>, Ref. 20).</p> <p>As another example, a community of highway travelers can use CarPlay to report traffic-related incidents and situations (see, <i>e.g.</i>, Ref. 6). For example, an associated traveler can indicate that "There's something on the road" (Ref. 6). This same reference also reveals that an associated traveler can "Report an accident" (Ref. 6). In a similar way, construction work and corresponding delays can be reported to a community database using CarPlay technology.</p> <p>In addition, the user might elect to have the system provide navigation information to a particular destination. One specific example appearing in the documentation recites "Take me to the Golden Gate Bridge" (Ref. 11). For the system to provide such responsive information to the user, the system must receive location-based information from the mobile electronic device.</p> <p>There are other location-specific data available to the Hyundai driver. For instance, with the CarPlay technology, the community database comprising traffic-related incidents and situations can, upon request of the Hyundai driver or passenger, communicate the salient details back to the Hyundai driver or passenger. In fact, it has been explained that "incident markers for Accident, Hazard, and Road Work are displayed in Maps for other users" (Ref. 6). For the system to provide such responsive information to the user, the system must receive location-based information from the mobile electronic device.</p>
automatically retrieve location-based travel information from the database system dependent on the received location of the mobile electronic device;	<p>The system utilized by CarPlay-enabled Hyundai vehicles involves automatically retrieving location-based travel information from the database system dependent on the received location of the mobile electronic device.</p> <p>As detailed above, the technology populating a CarPlay-equipped Hyundai can include information about traffic, road hazards, road construction, or police activity, including information based on reports submitted by other users (see, <i>e.g.</i>, Ref. 6).</p>

automatically retrieve a location-based advertisement from the database system dependent on at least the received location of the mobile electronic device and relevant to at least one spoken keyword; and

automatically present the retrieved location-based advertisement to a user of the mobile electronic device.

Similarly, documentation detailing Siri contains a scenario wherein the driver of a Hyundai vehicle wishes to communicate an estimated time of arrival with a friend (see, *e.g.*, Ref. 8). In order for this to work properly, the associated technology needs to retrieve location-based travel information from the database system dependent on the received location of the mobile electronic device.

The system utilized by CarPlay-enabled Hyundai vehicles involves automatically retrieving a location-based advertisement from the database system dependent on at least the received location of the mobile electronic device and relevant to at least one spoken keyword.

Hyundai documentation reveals that a CarPlay-enabled Hyundai includes voice recognition technology (see, *e.g.*, Ref. 33, Page 21; Ref. 34, Pages 13-14; Ref. 34, Pages 17-18).

A CarPlay-enabled Hyundai companion technology dubbed "Siri". Siri is an Apple iPhone spoken keyword voice assistant (see, *e.g.*, Ref. 8; Ref. 33, Page 33; Ref. 33, Page 35).

The user of a CarPlay-enabled Hyundai can submit a request that prompts the system to query a server-based database for certain location-dependent information. As one example, the user might employ Siri to instruct the system to "Find coffee near me" (Ref. 11). Similarly, Siri could be employed to help find additional types of businesses. In each of these situations, the system might search, for instance, a social network database for the requisite information and then return information germane to that specific query.

The system utilized by CarPlay-enabled Hyundai vehicles involves automatically presenting the retrieved location-based advertisement to a user of the mobile electronic device.

A CarPlay-enabled Hyundai features information germane to the respective locations and driving distances for a selection of restaurants, including "Novy", "Kitava", "Senor Sisig", and "Oren's

Hummus" (Ref. 17). Each such indication can be considered to comprise the recited "location-based advertisement".

As discussed above, a CarPlay-enabled Hyundai can return such advertisements in response to at least one spoken keyword (such as "Restaurants near me").

'163 Patent, Claim 3 Language	Accused Instrumentality
<p>Claim 3. The system according to claim 1, wherein the communication network interface port is configured to interface to the Internet, and the mobile electronic device comprises a cellular telephone.</p>	<p>For at least the reasons detailed above, Claim 1 is infringed by the accused instrumentality.</p> <p>It is well known in the art that an iPhone is one embodiment of a "cellular telephone", as recited in this patent claim. Correspondingly, the servers with which a CarPlay-enabled vehicles communicates via an iPhone also include a communication network interface port configured to interface to the Internet.</p>



'163 Patent, Claim 4 Language	Accused Instrumentality
<p>Claim 4. The system according to claim 3,</p> <p>wherein the location received from the mobile electronic device is global positioning satellite data.</p>	<p>For at least the reasons detailed above, Claim 3 is infringed by the accused instrumentality.</p> <p>It is known in the art that Apple iPhones—such as those used with CarPlay-enabled models from Hyundai—have GPS capability (see, <i>e.g.</i>, Ref. 10). Such GPS capability is often used to determine the location of the subject mobile electronic device, and to relay that location to certain remote systems.</p>

'163 Patent, Claim 5 Language	Accused Instrumentality
<p>Claim 5. The system according to claim 1,</p> <p>wherein the received location-based travel information comprises traffic information.</p>	<p>For at least the reasons detailed above, Claim 1 is infringed by the accused instrumentality.</p> <p>There are location-specific data available to the Hyundai driver. For instance, with the CarPlay technology, the community database comprising traffic-related information (e.g., traffic backups), incidents, and situations can, upon request of the Hyundai driver or passenger, communicate the salient details back to the Hyundai driver or passenger. In fact, it has been explained that "incident markers for Accident, Hazard, and Road Work are displayed in Maps for other users" (Ref. 6).</p> <p>Moreover, a community of highway travelers can use CarPlay to report traffic-related incidents and situations (see, <i>e.g.</i>, Ref. 6). For example, an associated traveler can indicate that "There's something on the road" (Ref. 6). This same reference also reveals that an associated traveler can "Report an accident" (Ref. 6). In a similar way, construction work and corresponding delays can be reported to a community database using CarPlay technology. And, such information comprises the recited location-based traffic information.</p>

'163 Patent, Claim 6 Language	Accused Instrumentality
<p>Claim 6. The system according to claim 1,</p> <p>Wherein the received location-based travel information comprises road hazard information.</p>	<p>For at least the reasons detailed above, Claim 1 is infringed by the accused instrumentality.</p> <p>Moreover, a community of highway travelers can use CarPlay to report traffic-related incidents and situations (see, <i>e.g.</i>, Ref. 6). For example, an associated traveler can indicate that "There's something on the road" (Ref. 6). This same reference also reveals that an associated traveler can "Report an accident" (Ref. 6). In a similar way, construction work and corresponding delays can be reported to a community database using CarPlay technology. And, such information comprises the recited location-based road hazard information.</p>

'163 Patent, Claim 7 Language	Accused Instrumentality
<p>Claim 7. The system according to claim 1,</p> <p>wherein the transmitted location-based travel route information is configured to trigger a voice message to a user of the mobile electronic device.</p>	<p>For at least the reasons detailed above, Claim 1 is infringed by the accused instrumentality.</p> <p>Using the accused technology, the database system comprising traffic-related incidents and situations can communicate the salient details back to the driver of a Hyundai vehicle with the CarPlay technology. In fact, it has been explained that "incident markers for Accident, Hazard, and Road Work are displayed in Maps for other users" (Ref. 6). Such data are stored in and retrieved from a database system. And, such data comprise examples of the recited location-based travel route information.</p> <p>Moreover, on a public help site devoted to Apple Maps there is a section entitled "Apple Maps and traffic" (Ref. 25). A portion of the associated text advises "You can see the traffic ahead in Maps when the app is opened in CarPlay. You will have to start directions if you want to get audio alerts about different things happening along your route..." (excerpted from Ref. 25).</p>

'163 Patent, Claim 8 Language	Accused Instrumentality
<p>Claim 8. The system according to claim 1,</p> <p>wherein the transmitted location-based travel route information is configured to display a warning icon on a GPS map of the mobile electronic device.</p>	<p>For at least the reasons detailed above, Claim 1 is infringed by the accused instrumentality.</p> <p>As detailed above in the analysis of Claim 1, some of the software programs that are valuable to a user of the subject Apple device include road mapping programs, such as Apple's own Maps software (see, <i>e.g.</i>, Ref. 23).</p> <p>Additionally, it is well known in the art that a number of the mapping applications supported by CarPlay-enabled Hyundai vehicles have the capability of displaying routing hazards. For example, documentation from Apple states that "incident markers for Accident, Hazard, and Road Work are displayed in Maps" (Ref. 6). The stated "Maps" comprises at least one "GPS map", as that phrase is disclosed and claimed in the '163 Patent.</p>

'163 Patent, Claim 10 Language	Accused Instrumentality
<p>Claim 10. The system according to claim 1,</p> <p>wherein the at least one server is configured to receive a search query through the communication network interface port, search the database system based on the search query, receive a response to the query from the database system, and transmit the response through the communication network interface port.</p>	<p>For at least the reasons detailed above, Claim 1 is infringed by the accused instrumentality.</p> <p>It has been documented that the user of a CarPlay-enabled Hyundai can submit a request that prompts the system to query a server-based database for certain location-dependent information. As one example, the user might instruct the system to "Find coffee near me" (Ref. 11). In this event, the system then searches, for instance, a social network database for the requisite information.</p> <p>Similarly, it is apparent that a CarPlay-enabled Hyundai could be employed to help find additional types of businesses. In each of these situations, the system might search, for instance, a social network database for the requisite information and then return information germane to that specific query.</p>

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